

DECLARATION UNDER 37 CFR § 1.132

I, Chuck Mallett, hereby declare as follows:

1. I am an adult over the age of 21, with a business address of 484 Geiger Street, Berea, OH 44107.
2. I am familiar with the internal combustion automotive engine industry, and in particular with the "after-factory" modification of automotive engines industry.
3. I have been employed for approximately thirty (30) years in the automotive industry. I am currently a research and development consultant for General Motors Corporation and have been employed in this capacity for approximately twenty-three (23) years. I am an owner, operator and founder of Mallett Cars, Ltd. (<http://www.mallettcars.com>), an automobile conversion company established approximately nine (9) years ago that modifies factory automobiles to increase their performance.
4. I am acquainted with Jeff Liebert and understand that he has a patent application pending titled CYLINDER SLEEVE SUPPORT FOR AN INTERNAL COMBUSTION ENGINE. I am not related to Jeff Liebert, and not being paid or receiving any other credit for the statements I am making here.
5. I have modified numerous stock engines to improve their performance over my career. Recently, I have modified engines by installing Superdeck 2 Cylinder Sleeve Support Plates developed by Jeff Liebert from Electromechanical Research Laboratories, Inc. (ERL), hereinafter referred to individually as a "Superdeck 2 Plate," with great results. The engines I have modified with the Superdeck 2 Plate were General Motors V8 gasoline engines. These V8 engines included eight (8) cylinders arranged in two (2) banks of four (4) cylinders, where the four(4) cylinders in each bank were arranged in a row. The following is a description of the Superdeck 2 Plate with which I am familiar:

An apparatus for use within an internal combustion engine having an engine block with a block connection surface (top face of the block) and a cylinder bore. The engine also has an engine head with a head connection surface (bottom face of the head), and the engine block and the engine head are connected to one another along their respective connection surfaces (the head is on top of the block). The engine also has a cylinder sleeve mounted in the cylinder bore, and a reciprocating piston positioned within the cylinder sleeve.

The apparatus includes a plate (Superdeck 2 plate) that is connectable between the block connection surface (top face of the block) and the head connection surface (bottom face of the head) for substantially overlaying the block connection surface (top face of the block) and for substantially underlaying the head connection surface (bottom face of the head). The Superdeck 2 plate also has a boss portion, where the boss portion is mounted substantially around and laterally supports the cylinder sleeve outer surface portion

6. I have installed at least one Superdeck 2 Plate in an engine as follows:

The original cylinder liner sleeves were removed from the engine. The cylinder block was bored at each cylinder location to receive new cylinder liner sleeves of greater bore diameter than the originals. The Superdeck 2 Plate was installed between the top face of the cylinder block and the bottom face of the cylinder head. A custom gasket was installed between the bottom of the Superdeck 2 Plate and the top of the engine block. This gasket is compliant and serves to seal oil and water passages. The Superdeck 2 Plate has a boss (flange) portion projecting down from the bottom of the plate into a space in the cylinder block that is adjacent to the upper ends of the new cylinder sleeves. The boss (flange) portion substantially fills the space, and partially surrounds the outer surface portions of the new cylinder sleeves that are adjacent to the upper ends of the new cylinder sleeves. The boss (flange) portion laterally (horizontally) engages the block and the outer surface portions of the new cylinder sleeves, and thereby laterally supports the new cylinder sleeve outer surface portions adjacent the upper ends of the new cylinder sleeves.

7. People replacing original engine cylinder sleeves to increase automobile performance by using new larger cylinder sleeves have had various problems, such as overheating engines, blown head gaskets, warped cylinder heads, distorted cylinder sleeves and other engine damage related to these problems. Others have attempted to address these problems. For example, "block guards" (metal rings mounted around the top portions of cylinder sleeves) and traditional "deck plates" (metal spacer plates mounted between the engine block and head to enable increased engine displacement, which I first used almost thirty (30) years ago) have been used to address at least some of these problems. However, neither the block guard nor the deck plate, alone or in combination, has been able to provide the desirable characteristics that are present in the Superdeck 2 Plate described above.

For example, neither the block guard nor the deck plate provides the lateral support of the cylinder sleeve relative to the engine that the Superdeck 2 Plate does. By having the large surface area of the plate portion of the Superdeck 2 Plate sandwiched between the upper surface of the engine block and the lower surface of the engine head, the Superdeck 2 Plate is securely held within the engine. This arrangement allows the Superdeck 2 Plate to resist high lateral forces imparted by the cylinder sleeve to the boss portion of the Superdeck 2 Plate without moving in relation to the engine block. As such, the cylinder sleeves are rigidly tied to the block, greatly enhancing the stability and strength of the engine. The Superdeck 2 Plate provides a degree of lateral support to the cylinder sleeves greater than previous devices. I am not aware of anything that has given the great results that I have seen with engines using the Superdeck 2 Plate.

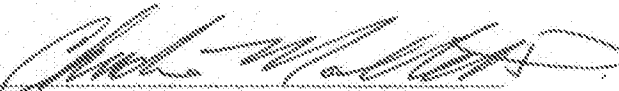
8. Another beneficial feature of the Superdeck 2 Plate is that it does not dissipate or diminish the pressure between the engine head and the cylinder sleeves, and thereby prevents the escape of combustion gasses and the associated power loss. When installed, high pressure between the engine head and the cylinder sleeves is maintained by limiting the force exerted on the engine head by the Superdeck 2 Plate.

9. Before the advent of the Superdeck 2 Plate, my customers and friends were constantly having problems with internal coolant leaks, blown head gaskets, and a general lack of repeatability with different sleeving systems and manufacturers. Horsepower levels were limited to a few hundred horsepower. Since the advent of the Superdeck 2 Plate, the amount of power that can be generated in a modified stock engine has dramatically increased. The Superdeck 2 Plate is now the industry leader and the industry standard for producing a reliable, modified engine with high power. The stability, rigidity and reliability afforded by the Superdeck 2 Plate has allowed for tremendous gains in engine power.

10. When I think about modifying an engine for my own use or for a customer or friend, I want increased power output over the original engine, and I want it to be at least as reliable as the original engine. With the Superdeck 2 Plate, the power output that may be achieved is dramatically increased over other types of engine modifications I have used, while still maintaining a very high degree of reliability.

11. I think that Jeff Liebert has recognized a need for a cylinder sleeve support that securely mounts to an engine while laterally supporting and cooling the cylinder sleeves, especially cylinder sleeves extending above the surface of the engine block, while maintaining a high sealing pressure between the engine head and the cylinder sleeves. With his innovative Superdeck 2 Plate, he has solved the problem of deformation of the cylinder sleeves (especially under high power), while permitting circulation of fluids between the block and the head along original pathways. Engines modified with the Superdeck 2 Plate have power and durability characteristics, especially under high power conditions in racing events that exceed other engines that have been modified to increase the stroke and power of the engine but without using the Superdeck 2 Plate.

12. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of Jeff Liebert's application or any patent issued thereon.


Chuck Mallett

8-01-2006
Date

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